The City of Scottsdale

Business Intelligence Strategic Plan

Created June 2014

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Executive Summary

The Business Intelligence (BI) team provides a data infrastructure enabling city staff to analyze and allocate limited city resources to meet the needs of Scottsdale citizens. Effective analysis of business data allows decision makers to implement services with the least possible cost in time and money; doing more with less.

This document details all aspects of the BI team, including the services provided, the customers supported, and the staffing resources available.

Services

The BI team provides three primary services to the organization in order to maintain a secure, stable and reliable data infrastructure.

Database Services - The BI team maintains the city's databases and database server infrastructure so that applications and data analysis tools function properly to users with authorized access.

Business Intelligences Services - Excellent data analysis allows city staff to make the best business decisions. The BI team enables quality data analysis by administering a citywide Business Intelligence platform.

The BI team also disseminates its data analysis technical expertise by providing training, mentoring and BI development services to city staff.

Application Support Services - the BI team supports BI related enterprise level applications including Microsoft SharePoint, Learning Management System, IT Service Management Software and support of Departmental applications created in Microsoft Access.

Customers

The BI team directly and indirectly serves a wide array of customers of varying technical skill.

The BI team understands that ultimately the services we provide are for Scottsdale citizens, our indirect customers; in that nearly every city service provided directly to the citizens relies on the data infrastructure administered by the BI team.

The BI team's primary customer is the city's Tech Partners. Heavy emphasis is given to BI development and training/mentoring on data analysis techniques. The BI solutions Tech Partners create directly affect the work processes and decision making of many employees in all Departments.

Although the BI team does not have the resources to understand and support the business needs of every city department, the team leverages its technical expertise by making sure the Tech Partners have the tools and knowledge to create impactful BI solutions for their departmental customers.

Information Technology staff are supported with database design, BI solution development and training in data analysis techniques.

The BI team provides application support services to non-technical city staff both directly and indirectly

Staffing Resources

The BI team includes the Business Intelligence Manager, Database Administrator and four Enterprise Systems Integrator positions. Although each position has a different primary focus, staff has overlapping BI skills that complement the team as a whole.

This document describes the existing staff resources and outlines professional development goals the team will need to achieve to prepare for anticipated future technology changes and fill existing knowledge gaps.

Strategic Goals

The BI team constantly works to improve the data infrastructure for the enterprise and to improve our own efficiency. The Strategic Goals section of this document outlines a five year project plan. In every case, projects target a specific BI service and a way to improve or expand that service.

The BI team strategic goals are re-evaluated annually to ensure they are in-line with the needs of our customers, changing technology and the direction provided by executive management.

Services Provided

The city's Business Intelligence (BI) team provides a wide range of services to a diverse customer base with varied technical skills and needs. The BI team provides services for data infrastructure, data analysis, application support and consulting.

Database Services

The city's data infrastructure is the foundation for electronic information storage, analysis and presentment throughout the enterprise and is maintained through a variety of services.

Data Availability

Database servers must be monitored, maintained and periodically upgraded to maximize uptime and performance.

Data Reliability

All databases must be maintained for data consistency, backed up on an appropriate schedule and periodically have restore capability confirmed.

Data Security

All data must be appropriately protected from unauthorized access whether the data is in transit or at rest using appropriate access restrictions and/or encryption techniques.

Database Design & Performance Tuning

Databases used by software applications must be designed to ensure they store data accurately and efficiently. Databases, whether city or vendor developed, must be performance tuned so reports and applications perform properly.

Data Warehousing Design

Databases used to store and analyze large volumes of data must be designed with effective storage configuration and data analysis performance.

Business Intelligence Services

Business Intelligence improves decisions by making meaningful data available to the organization's management. This is done with a variety of technologies and services.

Reporting

Reports are created for applications so users can discover insights about how their business is operating.

Data Extraction, Transformation & Loading (ETL)

Data must be moved between disparate systems for software, data analysis and reporting to function properly.

Data Mining

The BI team builds data warehouses to facilitate complex analysis and predictive analytics so departments can better understand their business.

Training & Mentoring

City staff is continuously trained on Business Intelligence development so they have the ability to quickly react to their department's needs.

Application Support Services

The BI team provides operational support and maintenance for some enterprise-wide software applications procured from vendors.

Electronic Document Management

Electronic Document Management (EDM) is used to track and store electronic copies of documents. The BI team provides services for EDM citywide including:

Document Availability

EDM servers must be monitored, maintained and periodically upgraded to maximize uptime and performance to ensure electronic documents are available, including for Departments that operate on a 24/7 basis.

Document Security

All electronic documents must be appropriately protected from unauthorized access.

Document Intake (Scanning)

The hardware and software used to scan and file documents must be maintained and upgraded to enable efficient document intake.

Microsoft SharePoint Platform

SharePoint is used to allow city staff to share ideas, work together, organize information and discover insights about data.

The BI team manages this platform including server infrastructure, data integrity and security, compliance with governance plan and user support.

IT Service Management Software (ITIL)

The hardware and software that constitutes the city's ITIL system for incident resolution and change tracking must be maintained and upgraded to support work requests for Information Technology.

Learning Management System (LMS)

The hardware and software that constitutes the LMS must be maintained and upgraded to meet the talent management needs of the city.

Interactive Voice Response (IVR)

The hardware and IVR software used to handle inbound and outbound calls for various city Departments must be maintained and upgraded to meet the city's needs.

Microsoft Access Support

Access is used as a platform to create simple data entry forms and reporting solutions for workgroups throughout the city and, as such, it is not included in Database Services. The BI team provides the following services for Access support:

Consulting – provide assistance to city staff in query, form and report design to solve challenges for a workgroup

Legacy Application Maintenance – some city developed applications were originally created using Microsoft Access and they must be maintained until they are re-written or deprecated.

Customers Served

The Business Intelligence (BI) team has a wide variety of customers with differing needs and expectations using BI services in a variety of ways. See Appendix A for a matrix of service usage by customer.

City of Scottsdale Citizens

The city's citizens have an expectation that they will be able to access city services and that those services are available at the appropriate times. The city's BI team indirectly interacts with Scottsdale citizens by ensuring data platforms are working whether the citizen is interacting with the city virtually online or physically via a service rendered.

Online

Citizens use the city's web based online services to interact with the city. The city's website, eServices applications and public records search capability are all underpinned by database and electronic document management systems.

Services

Virtually every interaction the public has with city staff involves a software application to track the transaction. Those applications store their data in the city's data infrastructure.

Technology Partners Staff

Technology Partners are technical staff that work for various Departments around the city but are not part of the Information Technology Department. The BI team works directly with the Tech Partners using all the BI services, e.g. create new databases, data warehouses, reporting solutions, data transfers, EDM solutions, etc.

Because the Tech Partners serve a large segment of city staff, the BI team is particularly diligent in providing training and mentoring to this customer. Improving the knowledge and skills of the Tech Partners results in increased effectiveness for all their customers; this is an important way the BI team leverages its citywide impact with limited resources.

Application Development & GIS Staff

BI is part of the Application Development & GIS workgroups. These teams work together to build effective databases, reporting, data transfer, and EDM integration solutions as needed for new projects.

Information Technology Staff

The BI team directly interacts with other workgroups within Information Technology to assist with operational support on applications, maintain the city's data infrastructure and help other workgroups create reports and data transfer processes.

City Staff (non-technical)

The city's non-technical staff interacts with the BI team both directly and indirectly:

Directly

City staff may require application support (for BI supported applications) or training on self-service BI and those staff members work directly with a BI team member.

Indirectly

City staff relies on a functioning and reliable data infrastructure and reporting platform so their software applications can function.

Staffing Resources

Business Intelligence Manager

The Business Intelligence Manager is a working manager who performs the tasks required for Database Services and Business Intelligence (BI) Services while setting direction for the BI team.

Database Administrator

The Database Administrator position has a primary focus of performing the Database Services tasks to maintain the city's data infrastructure. The position is additionally assigned BI Services tasks as time allows.

Enterprise Systems Integrator

The four Enterprise Systems Integrators (ESI) primarily perform tasks related to Application Support Services. These positions are additionally assigned BI Services tasks as time allows.

Three ESI positions have primary support responsibilities for one enterprise application and secondary support for one or more enterprise applications.

The fourth ESI position primarily performs support for BI Services and additionally is responsible for supporting Access applications and IVR administration.

Professional Development Goals

BI team members are required to continuously improve their professional skills to both keep up-to-date with current technology trends and to find ways to improve services and/or reduce costs for the city and its citizens. See Appendix B for timelines of the goals listed below.

Reduce Support Risk for IT Service Management Software (ITIL)

One BI team member is currently primary support for the ITIL platform and we need to train a second person on the platform in order to provide support stability. An Enterprise Systems Integrator will be cross-trained on the ITIL platform.

Reduce Support Risk for Learning Management System (LMS)

One BI team member is currently primary support for the LMS platform and we need to train a second person on the platform in order to provide support stability. An Enterprise Systems Integrator position will be cross-trained on the LMS platform.

SharePoint Platform Administration

Building and supporting a SharePoint platform is a new responsibility added to the BI team. Two Enterprise Systems Integrator positions will be trained via instructor led and CBT based training to learn platform administration and operations.

Business Intelligence – Power BI Tools

Microsoft is moving new report development and data analytics away from the traditional SQL Server BI services and toward the Power BI self-service tools available in Excel.

All four Enterprise Systems Integrator positions need training on use of these tools and how they inter-operate with SharePoint as the repository for deployed analytics solutions.

Windows Server Administration

Numerous servers are administered by the BI team. Windows Server 2012 R2, the latest version of server operating system, will dramatically change the way administrators interact with the operating system, in many cases administration is completely performed by command line rather than GUI. Windows Server Administration skills will need to be updated in order to continue effective server maintenance of BI servers.

Strategic Goals

The Business Intelligence (BI) team's mission is to provide a stable data infrastructure and implement BI solutions throughout the city that improve understanding and decision making for the entire organization. Each BI service area has projects that will improve our ability to fulfill our mission. See Appendix C for the strategic goal timeline. See Appendix D for goals completed since the last revision of the BI strategic plan.

Database Services

SQL Server 2014 Upgrade
Goal: FY 14/15 thru 15/16 – Improve Data Reliability, Availability, and Security

SQL Server 2014 has many feature improvements over the previous versions. Some of the features the city can implement to improve the data infrastructure are:

Availability
New server clustering features called AlwaysOn that allows groups of databases to stay online in the event of a hardware failure and improve reporting performance on busy databases.

Administration
New administration features simplify and improve handling large databases and data warehouses as well as new features for working with databases deployed to the Azure cloud platform.

Performance
New features speed up data access and maintenance for large databases.

Security
Improved encryption and finer control of database permissions strengthen security measures.

The BI team will create and implement a plan to upgrade all non-Departmental database servers to SQL Server 2014.

Orphaned User Resolution
Goal: FY 15/16 – Improve Data Security

An important technique for reducing vulnerability of unauthorized access to data is to reduce the "attack surface". The attack surface is any point of entry a user might exploit to gain access to a system. One way the BI team will reduce the attack surface on the data infrastructure is to limit the number of database users.

During daily operations databases are moved to different servers for a variety of reasons. When these changes occur it is possible existing database users are no longer used creating an "orphaned user". Leaving extra, unused users on a database or server increases the attack surface to the data infrastructure thus increases risk for unauthorized data access.

The BI team will reduce our attack surface by creating a process to monitor and remove orphaned database users.

Encrypt Database Connections
Goal: FY 14/15 - 16/17 – Improve Data Security

In our current data environment connections made to database servers are typically created with unencrypted communications. Our infrastructure relies on the security of the city's internal network

behind the firewall to prevent unauthorized access to data in transit.

If a malicious user, either from outside the city or a city employee, has access to the city network data communications on the internal network would be unprotected and could potentially be viewed or modified maliciously.

In order to prevent unauthorized access to data in transit on the city's network the BI team will work to implement SSL encryption on all database connections.

Linked Server Maintenance Process
Goal: FY 16/17 – Improve Data Security

An important technique for reducing vulnerability of unauthorized access to data is to reduce the "attack surface". The attack surface is any point of entry a user might exploit to gain access to a system. One way the BI team will reduce the attack surface on the data infrastructure is to eliminate unused linked servers.

A linked server is used to allow queries to occur from one database server to another simplifying data access and data modification between disparate systems. This is accomplished by configuring a set of database logins to be used on both servers to communicate with each other.

During daily operations databases are moved to different servers for a variety of reasons. When these changes occur it is possible existing linked servers are no longer used.

Additionally, linked servers are created with specific names on each server. Often, these names are different on production and test

servers. Different linked server names between production and test causes maintenance and deployment problems when Application Development modifies software.

The BI team will reduce our attack surface and simplify maintenance by creating a process to find and eliminate unused linked servers and ensure linked servers on production and test servers have the same names but connect to the appropriate production or test source.

Virtualize Database Servers & Migrate to City's Disaster Recovery Infrastructure
Goal: FY 14/15 thru 18/19 – Improve Data Reliability and Availability

Information Technology is building a Disaster Recovery infrastructure that will ensure business critical applications have limited downtime if a critical failure were to occur at the city's only data center.

The BI team will participate in this project with the goal of placing 100% of the city's business critical data infrastructure in this platform.

Virtualizing servers ensures hardware resources are being maximized at a low cost. It provides resiliency in the event of a hardware failure, reduces maintenance costs associated with running a data center, and provides flexibility in allocating resources to servers as they experience demand.

The BI team will leverage the city's virtual server environment by virtualizing 75% of the city's database servers.

SQL Server High Availability

Goal: FY 18/19 – Improve Data Availability and Reliability

SQL Server 2014 comes with many new high availability (HA) features that improve the capability of SQL Server to remain running in the event of a server failure.

The BI team will research and test these capabilities and perform a cost/risk analysis to determine if it makes financial sense to re-architect our existing enterprise shared database servers to utilize the new HA features.

Business Intelligence Services

SQL Server BI Services 2014 Upgrade

Goal: FY 14/15 – Utilize the latest BI Services technology citywide

SQL Server Reporting Services 2014 has many new features to improve report presentation and flexibility, more advanced features to push data changes to interested customers and can export to the latest Office file formats.

The BI team will plan, organize testing with Tech Partners and deploy SQL Server Reporting Services and Analysis Services 2014 to the city's BI infrastructure.

Water Work Order Reporting

Goal: FY 14/15 – Design a flexible/extensible reporting solution and train department Systems Integrator

The Water Work Order application is complete and the department needs assistance building business critical reporting from the solution.

The BI team will partner with the departmental Systems Integrator to build business critical reports and a flexible data model for future reporting.

Enterprise Datamart

Goal: FY 14/15 – Improve access to enterprise data for BI tools

Build a datamart that has commonly used dimensions such as employee data, fund/center data, date/time data, etc. that can be incorporated into multiple BI projects around the city.

The datamart will also incorporate any data from internally developed applications that may be considered useful either at the department, division or enterprise level with appropriate access restrictions to the data.

This datamart will be able to expose data as a searchable library to SharePoint so Tech Partners can easily find what they need to incorporate it into their Power BI projects.

City Training for T-SQL & Reports

Goal: FY 15/16 – Increased BI outreach to Tech Partners

The most common BI work orders received from city staff are requests for training on reporting and creating queries for reports.

In order to maximize the training and mentoring service we provide to the Tech Partners, the BI team will create a half day primer on developing and deploying reports with special emphasis on building queries to obtain data for those reports.

This class will be offered annually through Scottsdale University and more often if demand is high.

Work Order Data Warehouse

Goal: FY 15/16 thru 16/17 – Create data warehouse to analyze work from all city work order systems

The BI team will build a data warehouse incorporating both the enterprise datamart dimensions with fact tables built from work order systems used throughout the city.

This data warehouse will showcase the capability of an enterprise data warehouse and Power BI technology to the enterprise and be a basis for analyzing work order data for multiple divisions individually or enterprise wide.

Scada Data Upsize

Goal: FY 17/18 – Increase the resolution of water sample data

The Water Department scada data warehouse stores water sample measurements from the entire water system. The data is stored as an hourly average so the data is accurate to the nearest hour. The production scada server performs the work of aggregating minutely data to hourly averages and sends the data to the warehouse.

The work of aggregating hourly averages affects the performance of the production server and Water staff frequently needs information at more detail than hourly averages. When this data is necessary the production system must be queried directly increasing complexity of data extraction and reducing performance of the scada system.

The BI team will redesign the scada data warehouse to hold minutely data with hourly aggregates exponentially increasing

the size of the existing data warehouse. The disk storage will require special design considerations to simplify maintenance and maximize query performance.

The BI team will collaborate with the Water Tech Partners to build an ETL process offloading the hourly aggregation work from the production server and to redesign their existing reports to accommodate the increase data size.

Application Support

Electronic Document Management

Upgrade eDOCS

Goal: FY 14/15 – Simplified search, new web interface, simplified maintenance, upgraded server infrastructure

The city uses OpenText eDOCS as its EDM platform. OpenText scheduled eDOCS 10 for release in September 2014. This upgrade will result in the following improvements:

Server
 – Server hardware will be replaced resulting in 75% virtualized environment
 – Server operating systems will be upgraded to Windows 2012 R2
 – Database platform will be upgraded to SQL Server 2014

Client
 – Client compatible with Office 2013
 – Simplified & faster search screens
 – Completely new web application may result in fewer client installations simplifying desktop maintenance

Integrate Water Department with EDM

Goal: FY 14/15 thru 15/16– Configure EDM platform for use in all Water departments

The BI team will partner with the Water department to configure all Water document types, document security, records retention and application integration within the EDM platform.

The BI team will also provide instructor led training for all users in each department as EDM is rolled out to the various Water departments.

Kofax Validation Scripts
Goal: FY 15/16 – Enable city to upgrade Kofax beyond 10.1

Kofax has deprecated the programming language, SBL, used to build validation scripts for the data validation module.

The BI team will re-write all validation routines using VB .Net allowing upgrades to Kofax beyond version 10.1.

Mobile Document Management
Goal: FY 16/17 – Increase availability and flexibility of the EDM platform

Mobile consumer devices such as smartphones and tablets are used more frequently by city staff. Some Departments incorporating mobile devices also rely heavily on the EDM platform.

The BI team will implement available mobile EDM app solutions to meet the needs of our customers while ensuring security and privacy of city documents on a mobile consumer device.

Records Management Conversion
Goal: FY 16/17 – Replace Deprecated Vendor Module

The city currently uses Records Management, eDocs Edition for our records management implementation. The vendor, OpenText, has deprecated that module and is no longer actively developing it.

The BI team will migrate to OpenText's new product called Records Management in order to maintain support of our records management implementation.

Kofax Release Scripts
Goal: FY 16/17 – Reduce Scanning Maintenance

The city uses Kofax Capture to scan documents and send them to the primary EDM system, OpenText eDOCS, and occasionally sends information to ancillary systems as well. The process of moving documents from scanning to EDM is called Release and there are scripts created by a defunct vendor that perform the release.

Frequently, after eDocs or Kofax is upgraded there are problems with the release scripts and they need to be manually recreated to work properly. This maintenance during upgrade involves reconfiguring hundreds of fields on scores of forms and many hours of labor.

The BI team will partner Application Development to create and maintain City of Scottsdale developed release scripts to prevent ongoing maintenance during system upgrades and improve control and flexibility over how Kofax data is sent to EDM and other supporting systems.

SharePoint Implementation, Phase I
Goal: FY 14/15– Build a SharePoint platform as a pilot program

The IT department wants to determine the feasibility of using SharePoint in the

enterprise and desires to implement SharePoint as a limited use, pilot to better understand resource requirements involved with administering a SharePoint platform.

The BI team will create a governance plan defining how SharePoint will be used and what the roles and responsibilities of various city staff are within the SharePoint platform.

The BI team will also build a test and production environment capable of implementing the features defined in the governance plan.

Both production and test environments will include capability for backup and restore and a server monitoring implementation.

The BI team will work with IT training to develop training courses through Scottsdale University to help users understand site administration and content creation.

Upgrade IVR Platform
Goal: FY 14/15 – Platform is two major versions behind the latest release and needs to be upgraded to remain vendor supported

The city uses two Voxeo products, Voxeo Prophecy IVR and Voxeo CXP, to implement the IVR solution and the version we are running is outdated.

The BI team will partner with Application Development to upgrade the city's IVR platform to version 14. During that upgrade the platform's configuration on the servers will be modified and simplified to reduce maintenance time. The architecture of the platform will also be documented.

SharePoint Implementation, Phase II
Goal: FY 15/16 thru 16/17 – Build a SharePoint platform as an enterprise service

If IT decides to move forward with providing SharePoint to the enterprise the BI team will create a final governance plan describing all approved features implemented in a production platform.

The BI team will procure and configure appropriately sized hardware resources for a full enterprise implementation, those resources may be on-premise, cloud based or a combination of both.

The BI team will administer the SharePoint platform in accordance with the governance plan on an on-going basis.

Upgrade Learning Management Software (LMS)
Goal: FY 14/15– Utilize the latest LMS features available and improve user experience

The city's LMS vendor recently released a major change to the platform that allows improved flexibility and customization capability to design screens.

The BI team will upgrade to SumTotal 2013 and revise the Home, Learner and Manager screens to improve access to context relevant information. Also, screens linking into LMS from other locations, such as CityLink, will be redesigned to ensure they are displaying appropriate data with a consistent design element.

Upgrade ITIL Platform
Goal: FY 14/15– Utilize the latest ITIL features available and improve user experience

The BI team will upgrade the ITIL platform, Cherwell, to version 4.6e to keep the software up-to-date and supported from the vendor.

In addition, the BI team will build new features in the 4.6e including:

Redesign Service Level Agreements –The current SLA configuration incorporates only incident and radio and is overly complex. This will be re-written to simplify maintenance and incorporate requests

Redesign Self-Service Website – The BI team will build an improved site to simplify creating and viewing work orders.

Redesign Dashboards –The BI team will assist in redesigning the layout, style, and content of the dashboards as needed.

Appendix A – Customers & Services Matrix

The figure below is a matrix showing which Business Intelligence Services customers primarily use.

Services Provided	Scottsdale Citizens	City Staff (Non-technical)	Tech Partners	IT Staff	Application Development
Database Services	✓	✓	✓	✓	✓
Data Availability	✓	✓	✓	✓	✓
Data Reliability	✓	✓	✓	✓	✓
Data Security	✓	✓	✓	✓	✓
Database Design	✓	✓	✓	✓	✓
Data Warehouse Design			✓		
Business Intelligence Services		✓	✓	✓	✓
Reporting		✓	✓	✓	✓
Data Transfer			✓	✓	✓
Data Mining			✓		
Training & Mentoring		✓	✓	✓	✓
Application Support		✓	✓	✓	
Electronic Document Management	✓	✓	✓	✓	✓
Document Availability	✓	✓	✓	✓	✓
Document Security	✓	✓	✓	✓	✓
Document Intake		✓	✓	✓	✓
IT Service Management Software			✓	✓	✓
Learning Management System		✓	✓	✓	
Microsoft Access Support		✓	✓	✓	
SharePoint		✓	✓	✓	✓

Table 1

Appendix B – Professional Development Timeline

	Estimated Completion Year				
Professional Development Goals	**FY 14/15**	**FY 15/16**	**FY 16/17**	**FY 17/18**	**FY 18/19**
Database Services					
Windows Server 2012 R2	▉				
Business Intelligence Services					
Microsoft Power BI suite	▉	▉			
Application Support Services					
Cross-train staff on ITIL Platform Support	▉				
Cross-train staff on LMS Platform Support	▉				
SharePoint 2013 Administration	▉	▉			
Windows Server 2012 R2	▉				

Table 2

Appendix C – Strategic Goal Timeline

Project Goals	Estimated Completion Year				
	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19
Database Services					
SQL Server 2014 Upgrade	■	■			
Orphaned User Resolution		■			
Encrypt Database Connections	■	■	■		
Linked Server Maintenance Process			■		
Virtualize DB Servers/Migrate to DR Platform	■	■	■	■	■
SQL Server High Availability					■
Business Intelligence Services					
SQL Server BI Services 2014 Upgrade	■				
Water Work Order Reporting	■				
Enterprise Datamart	■				
City Training for T-SQL & Reports		■			
Work Order Data Warehouse		■	■		
Scada Data Upsize				■	
Application Support					
Electronic Document Management					
Upgrade eDOCS	■				
Integrate Water Department with EDM	■	■			
Kofax Validation Scripts		■			
Mobile Document Management			■		
Records Management Conversion			■		
Create Kofax Release Scripts				■	
SharePoint Implementation, Phase I	■				
Upgrade IVR Platform	■				
SharePoint Implementation, Phase II		■	■		
Upgrade LMS	■				
Upgrade ITIL Platform	■				

Table 3

Appendix D – Goals Completed

Below is a table showing the goals completed since the prior strategic plan was created in April 2012.

Completed Goals	FY 12/13	FY 13/14
Database Services		
Database Restore Validation		✓
SCOM 2012 Upgrade		✓
SQL Server License Records Management	✓	
Electronic Document Management		
Warrant Documents Always Available	✓	
Evaluate EDM Platform		✓
Evaluate Email Management	✓	
Business Intelligence Services		
ADOT Data Transfer	✓	
Business Intelligence Team SharePoint Site		✓
Open Government Data, Phase I	✓	
Public Safety Personnel Software	✓	
Streamline Employee Information Life Cycle		✓
Upgrade Data Warehouse Platform		✓
Application Support		
Upgrade Learning Management Software	✓	
Re-design IT Intranet Site	✓	

Table 4